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Davidson, Davidson & Kappel, LLC 485 7th Avenue 14th Floor New York, NY 10018			EXAMINER BANH, DAVID H	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed on November 18, 2009 have been fully considered but they are not persuasive. Applicant argues that Zerillo does not teach "a control interface for data exchange coupled to the at least one synthesizer for setting at least one of the resolution ratio, the frequency ratio and the phase relation of the first and second signal based on data input by a user and transmitted to the synthesizer". However, as seen in paragraph 40, Zerillo teaches a control interface **67a**, the control interface is coupled to the controller and thus coupled to a portion of the controller which generates a signal (see Fig. 1, the controller **67** is integral with the control interface **67a**, in paragraph 53, a signal from the controller controls the motor **65**, thus the portion of the controller is a synthesizer and all of the portions of the controller and control interface **67a** can be considered coupled), the controller **67** to control the motor **65** is programmed by the control interface **67a**, and the signal to control the motor **65** is dependent on the instructions provided by the user on the user interface **67a**, thus the synthesizer exchanges data with the control interface **67a**. Any two signals, in this case, the first signal generated by an encoder for the position of the shaft, the second signal, generated by the synthesizer to control the motor, will have a frequency ratio, and the frequency ratio is controlled by the characteristics of the signals, which determined by the instructions inputted by a user to the control interface.

Applicant argues that Zerillo does not teach what type of information is input by the user or "at least one synthesizer for generating a second signal having a resolution

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ratio, a frequency ratio and phase relation relative to the first signal”. However, in paragraphs 40 and 53 of Zerillo, the information input is for programming the controller, and the controller is for controlling the motor and the cylinder. A portion of the controller **67** generates a signal, as taught in paragraph 53, and this portion of the controller that generates a signal is a synthesizer. Any signal has a resolution ratio, a frequency ratio and a phase relation relative to any other signal.

Applicant argues that there is no disclosure in Zerillo to support that the signal sent from the controller was set to include “at least one of the resolution ratio, the frequency ratio and the phase relation” of the received from the encoder **69** “based on data input by a user and transmitted to the synthesizer”. However, claim 11, at least in a broadest reasonable interpretation, does not require such a limitation. Instead, claim 11 can be understood to mean that the frequency ratio of the first signal to the second signal is set, where a frequency ratio is simply the quotient of the frequency of the first signal to the second signal, based on data input by a user. In the case of Zerillo, data input from a user is used to control the motor and thus, the choice of data input determines the second signal and its frequency, and thus directly determines the frequency ratio of the first signal relative to the second signal.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims 11, 13, 16, 17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Zerillo (US PG Pub 2003/0183102).

For claim 11: Zerillo teaches a rotary element **60** of a printing press (see paragraphs 4 and 40) comprising an encoder **69** for generating a period first signal in response to the rotation of the rotary element **60** (see paragraph 40, the encoder **69** generates a signal for the position of the rotary element **60**, which is period since the rotary element **60** spins circularly), an evaluation unit **67** linked to the encoder **69** (see paragraph 40, the control unit **67** receives signal from the encoder **69**) having at least one synthesizer for generating a second signal having a resolution ratio, a frequency ratio and a phase relation to the first signal (see paragraph 53, a signal from the controller **67** rotates a cylinder motor **65**, since a signal is produced by a portion of the controller **67**, this portion of the controller **67** is a synthesizer, any signal will have a resolution and a frequency, which can be a ratio to a different signal, and any signal will have a phase relation to another signal), and a control interface **67a** (see paragraph 40, control interface is a user input device **67a**) for data exchange coupled to the synthesizer (the synthesizer is part of controller **67** which is connected to input device **67a**, see Fig. 1) for setting at least one of the resolution ratio, the frequency ratio and the phase relation of the first signal to the second signal (any two signals will have a frequency ratio for example, and the ratio depends on the signal, since the user input sets the second signal, it plays a role in setting the ratios) based on data input by a user and transmitted to the synthesizer (see paragraph 40, a user to the programmable controller **67**, the controller **67** for controlling a motor **65** as taught in paragraph 53, the

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synthesizer is the portion of the controller which generates the signal for controlling the motor, thus the synthesizer must receive the data for generating the appropriate signal type in some form).

For claim 13: Zerillo teaches the rotary element of claim 11 wherein the evaluation unit **67** includes at least one output interface, the output interface outputting the second signal for driving a clock-pulse controlled device **65** (the output device is the synthesizer which is necessitated by the fact that the controller **67** produces a signal to the motor, and the motor is a clock pulse controlled device).

For claim 16: Zerillo teaches the rotary element of claim 11 where the first and second signals each are a sequence of signal pulses (the encoder **69** produces a signal for the position of the cylinder **60**, which would be a signal pulse sequence, and the controller **67** produces a signal for controlling the motor, which would be a sequence of signal pulses).

For claim 17: Zerillo teaches the rotary element of claim 11 wherein the rotary element **60** is a cylinder (see paragraph 40 and Fig. 1).

For claim 20: Zerillo teaches an offset press (see paragraph 4 and paragraph 40) comprising at least one rotary element as recited in claim 11 (the cylinder **60** may be part of a printing apparatus as in paragraph 40, the printing apparatus is generally lithographic offset as in paragraph 4).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo (US PG Pub 2003/0183102) in view of Ecklemeyer (US Patent 4,271,379).

For claim 14: Zerillo teaches the rotary element of claim 11 but does not teach that the resolution of the second signal is lower than the resolution of the first signal. However, Ecklemeyer teaches a means of changing the resolution of a pulse signal for pulse trains carrying information about the speed and position of a motor (column 6, lines 18-45, claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the resolution changing means of Ecklemeyer with the invention taught by Zerillo for the purpose of controlling the first and second signals of Zerillo enabling the resolution of the output signal to be reduced to below the resolution of the incoming signals for the purpose of reducing the noise and random fluctuations that could be visible at higher resolutions.

For claim 15: The combination of Zerillo and Ecklemeyer teaches the rotary element of claim 14 and Ecklemeyer further teaches a divider (column 6, lines 18-45, speed adjusting means to adjust number of pulses per resolution) for reducing the resolution of the first signal.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo (US PG Pub 2003/0183102) in view of Jackson et al. (US Patent 7,302,237) and Ecklemeyer (US Patent 4,271,379).

For claim 18: Zerillo teaches the rotary element of claim 11, but does not teach a further synthesizer for generating a further signal having a further resolution ratio, frequency ratio and phase relationship to the first signal. However, Jackson teaches a signal synthesizer that generates signals (column 6, lines 20-24, signal generator **10**), the signal having a frequency ratio (column 30-40, frequency as divide ratio) and a phase relation (column 2, lines 5-15, phase offset). Jackson does not discuss a resolution ratio; however, Ecklemeyer teaches a means for changing the resolution of a given signal (column 6, lines 18-45, claim 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Zerillo with the signal generator of Jackson et al. and the resolution modifier of Ecklemeyer for the purpose of being able to produce an optimized synthesized signal that be used to control the position of a rotary element.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo (US PG Pub 2003/0183102) in view of Marmin (US Patent 5,242,367).

For claim 19: Zerillo teaches the rotary element of claim 11, but does not teach that the rotary element is found in a folding apparatus of a rotary offset press. However, Marmin teaches a folding apparatus in a rotary offset press (column 1, lines 5-10), including rotary elements (see Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the rotary element taught by Zerillo as the rotary element for the folding apparatus taught by Marmin for the purpose of providing a user controllable cylinder that can perform a fold where desired as determined by input from a user.



***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID BANH whose telephone number is (571)270-3851. The examiner can normally be reached on M-Th 9:30AM-8PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DHB

/Ren L Yan/  
Primary Examiner, Art Unit 2854